



Examiners' Report Lead Examiner Feedback

May 2022
Level 3 National in
Information Technology

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from Pearson, the world's leading learning company. We provide a wide range of qualifications including academic, vocational, occupational, and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk for our BTEC qualifications.

Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

If you have any subject specific questions about this specification that require the help of a subject specialist, you can speak directly to the subject team at Pearson.

Their contact details can be found on this link:
www.edexcel.com/teachingservices.

You can also use our online Ask the Expert service at www.edexcel.com/ask. You will need an Edexcel username and password to access this service.

Pearson: helping people progress, everywhere

Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your learners at: www.pearson.com/uk

May 2022
Publications Code 31761H _2206_ER
All the material in this publication is copyright
© Pearson Education Ltd 2022

Introduction

Please note there is a paper-based solution, marking guidance and two marked scripts available for use with this examiner's report.

The resources are available [here](#) and will be referred to throughout this report.

This unit is a mandatory synoptic unit, which requires learners to complete two set tasks to design, create, test, and evaluate a relational database system that manages information. The scenarios in this examination were based around artists and exhibitions.

This was the second assessment using the new examination structure:

- Part A – Normalization, implementing the relational database structure, building queries and a report, testing, and evaluating the relational database structure
- Part B – The interface i.e., two forms, testing and evaluating the interface.

In terms of administration there were several learners who did not follow the guidelines i.e., only required to submit pdf versions of the activities and the final databases for Part A and Part B. The databases are for administration purposes only and **do not** get marked.

Centres **must** use the examination templates provided with each examination paper. **There are still several learners/centres failing to do this.** The templates are designed to give learners the best opportunity to present **all** the evidence required. Learners/centres who do not use the templates tend to miss out important evidence. The templates are provided as .rtf files. Centres may choose to use Word versions of these templates. Learners must ensure that they save the templates as pdf files – many did not this series.

In Part A, learners **must not** create any new attributes, they should use **all, and only**, the attributes given in the data extract. Please note using all and only the attributes given does not mean that learners cannot rename attributes. This is perfectly acceptable. In Part B, learners should not change the structure of the database at all. They should build their interface around the structure exactly as it is given.

Part A Activity 1 – Database relationship screen-print

This task is designed to test the learners' knowledge and skills in terms of database modelling via creating a database skeleton structure that reflects third normal form. They should use **all, and only**, the attributes given in the data extract.

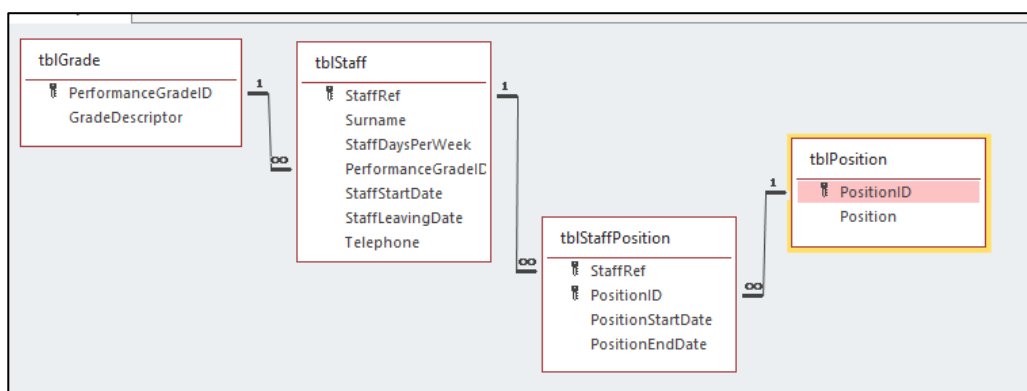
Marking Guidance	Page
Script A	Page
Script B	Page

The evidence expected is the database relationships screen-print taken from the database.

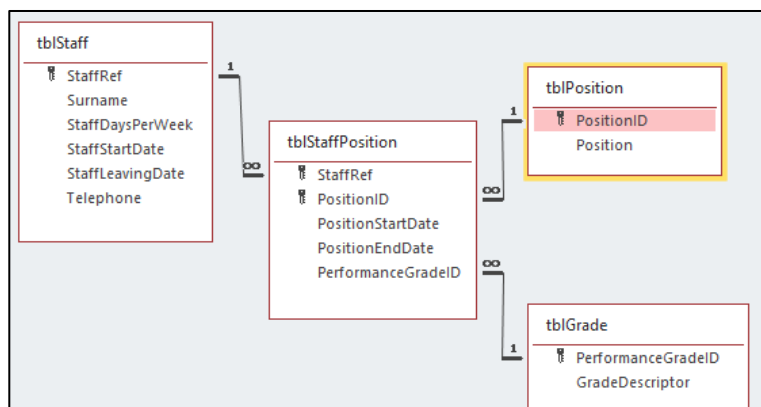
The screen-print should include:

- Each table in their solution
- All the fields in each table
- Primary keys that have been assigned
- Foreign keys (where appropriate)
- Relationships between tables
- The enforcement of referential integrity

Example A



Example B



It is surprising to see how many learners do not include a screen-print of their database relationships. In some cases, there was no evidence at all, in others the database was named Activity 1 – no marks are awarded for the database artefact itself. It is there purely for admin purposes.

It was really pleasing to find there were very few instances of learners drawing ERDs using word processing or graphics software. However, where learners had it tended to mean the relationships were not evidenced correctly.

Where marks were not achieved it tended to be for the same reasons given in the Lead Examiner report for previous examinations:

1. Learners did not produce the ERD using a screen-print from their actual database.
2. Learners used a three-table solution.
3. Fields were truncated in tables. Each attribute that cannot be seen or is in the wrong table is taken as an instance of data redundancy.
4. Relationships were incorrect or referential integrity was not enforced.
5. Links between the table were not on the correct fields.

Part A Activity 2 – Table structures and validation

Learners **must** use the template provided in each examination series for this task. Examiners mark the evidence against the learners' own entity relationship screen-print (activity 1) to ensure learners are not double penalised for any errors occurring in activity 1. Where learners have not included an activity 1, their structure is marked against our solution. It is designed to test their ability to build the database tables following standard naming conventions including the good use of field names, relevant data types, assignment of primary and foreign keys and a range of suitable validation.

Marking Guidance	Pages to
Script A	Pages to
Script B	Pages to

Traits 1, 2 and 3

tblGrade	
Field Name	Data Type
PerformanceGradeID	AutoNumber
GradeDescriptor	Short Text

tblPosition	
Field Name	Data Type
PositionID	AutoNumber
Position	Short Text

tblStaff	
Field Name	Data Type
StaffRef	AutoNumber
Surname	Short Text
StaffDaysPerWeek	Number
PerformanceGradeID	Number
StaffStartDate	Date/Time
StaffLeavingDate	Date/Time
Telephone	Short Text

tblStaffPosition	
Field Name	Data Type
StaffRef	Number
PositionID	Number
PositionStartDate	Date/Time
PositionEndDate	Date/Time

The evidence expected is one screen print per table. These screen-prints cover the first three traits.

Many learners included the evidence needed but it is still sad to see how many learners did not and chose to go straight to evidencing validation. Unfortunately, many times this meant there was at least one table missing, if not more, depending on what validation was shown. If the learners follow the template and do as it tell them this would not occur.

Trait 1

Naming conventions

Whilst many learners did use standard naming conventions and ensured the conventions used were consistent, it was still surprising to see how many did not. 'tbl' is expected to be used to identify the tables and consistent use of lower/upper case, spaces etc. are expected for the naming of fields. Table names should be consistent, primary key names should be consistent, other field names should be consistent. Unfortunately, quite a few learners cropped the names of the table off meaning a judgement could not be made as to whether naming conventions had been used or not.

Trait 2

Keys

Most learners did manage to ensure the structure evidenced in this activity matched the structure in their activity 1. It is worthwhile advising learners that if they do make changes to the structure in this activity then they should update their screen-print in activity 1. Where activity 1 had not been included then the keys are judged against the example solution.

Trait 3

Data types

Many learners did use the correct data types for all fields:

- Staff days per week, Number
- Staff start date, Date/Time
- Staff leaving date, Date/Time
- Position start date, Date/Time
- Position leaving date, Date/Time
- Telephone, Short Text of equivalent
- Primary keys, any suitable data type
- Foreign keys match their primary (e.g., number -> AutoNumber)
- Everything else text

Though there are still learners who do not recognize suitable data types of take their screen-prints before they have set the data types.

Trait 4 *Validation*

Learners are to provide one screen-print of each of the types of validation listed. Learners need to **think very carefully** about the screen-prints they include. The screen-prints must show validation that is appropriate to the scenario and the requirements given in activity 2 and activity 4.

In this paper the evidence required was **one** each of:

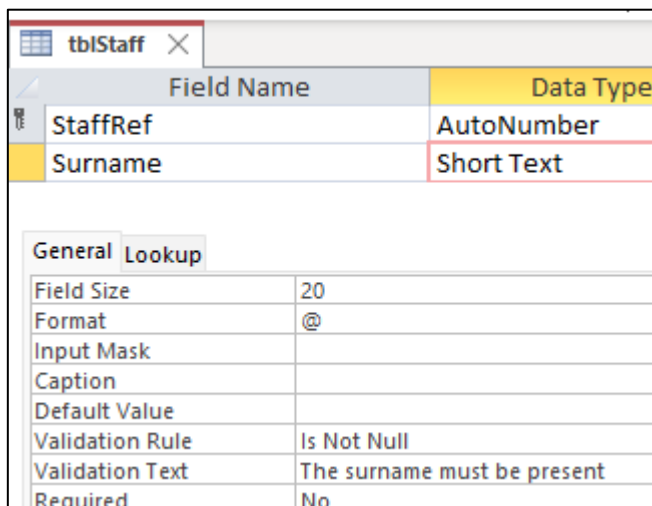
- Presence check
- Length check
- Value lookup or range check
- Table lookup
- Format check

Where more than one example of each had been included, the first example was taken as the evidence to be assessed.

Learners should fully validate their database tables even though only one screen-print is required. It may be that activity 4 requires the testing of something not specified in activity 2 e.g., testing of more than one foreign key.

It is worth noting that the minimum requirements for appropriate evidence of validation applied to a foreign key field is that the table name and field name can be clearly seen. Without both the examiner will class the evidence as an attempt rather than accurate. For all other fields the field name must be seen to be considered accurate.

Presence Check



Field Name	Data Type
StaffRef	AutoNumber
Surname	Short Text

General	
Field Size	20
Format	@
Input Mask	
Caption	
Default Value	
Validation Rule	Is Not Null
Validation Text	The surname must be present
Required	No

The evidence expected was one screen-print, in design view, showing the field name, presence check and suitable validation text. Learners should have noticed that a requirement of activity 2 was to ensure 'a record for a staff member will not save if the surname is not present' **OR** 'a record for a staff member will not save if the staff start date is

not present' this was the steer towards a presence check required. A screen-print of only one of them was required.

It should be noted that:

- Presence checks applied to primary keys are not appropriate
- Setting 'Required' to 'yes' is not appropriate
- Showing the results of a presence check in datasheet view, rather than the actual presence check in design view is not appropriate
- A presence check on any other field was classed as a demonstration of the skill

required but was not entirely correct in terms of the scenario/testing requirements

Any of the above would prevent access to the highest mark band as would not ensuring the presence check had a suitable customised error message that would appear if the field were left blank.

tblStaff	
Field Name	Data Type
StaffRef	AutoNumber
Surname	Short Text
General Lookup	
Field Size	20
Format	@
Input Mask	

Length Check

Evidence of a suitable length check on one **text** field was expected i.e., changing the field size of a text field, or using a validation rule to check that the length was appropriate.

Note if the check is not applied to a text field, then it is not mark worthy.

Range Check/Value Lookup

tblStaff	
Field Name	Data Type
Surname	Short Text
StaffDaysPerWeek	Number
General Lookup	
Field Size	Long Integer
Format	General Number
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	Between 2 And 5
Validation Text	Number of days must be 2, 3, 4 or 5
Required	No

Evidence of an appropriate range check or value lookup on the Staff days per week field was expected. The scenario, activity 2 requirements and testing requirements should have guided them to this.

However, at this level learners may, or may not, realise that value lookups may not be

appropriate if further records are added. For example, in this paper it was expected that there would be a table to hold the data relating to the positions. Some learners may have applied a value lookup to the position field in this table. If a new record were added it would mean that there would be a new position so the value lookup would be ineffective. At this level, the value lookup would be acceptable though not for the highest marks.

Table Lookup

Field Name	Data Type
StaffRef	AutoNumber
Surname	Short Text
StaffDaysPerWeek	Number
PerformanceGradeID	Number
StaffStartDate	Date/Time

Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [tblGrade].[PerformanceG
Bound Column	1
Column Count	2
Column Heads	No
Column Widths	2.99cm;2.54cm
List Rows	16
List Width	5.529cm
Limit To List	Yes

The evidence required was one screen-print showing a table lookup, in design view, applied to any of the foreign keys. **NOTE**, too many learners are still not ensuring 'Limit to List' has been set to 'Yes' on their table lookup or they have cropped the screen-print so it cannot be seen. This affects the marks that can be awarded.

Many learners put forward evidence of a value lookup as evidence for this form of validation, which is not appropriate. It needs to be a lookup

applied from one of their foreign keys to the relevant primary key.

Format Check

Field Name	Data Type
StudentID	AutoNumber
StudentFirstname	Short Text
StudentSurname	Short Text
StudentEmail	Short Text

Field Size	19
Format	@
Input Mask	>L<LL*_*>L<L'@washer.ac.uk';0;

The telephone number was the format check expected; learners should have seen the pattern whilst studying the data extract.

Whilst format checks applied to other text fields were markworthy they were not considered as being

fully appropriate.

It is still sad to see that despite pointing out in every Lead Examiner report that format checks applied to numbers or dates are not acceptable evidence there are still instances of learners submitting screen-prints showing this.

Part A Activity 3 – Queries and report

This task is designed to test the learners' ability to build the queries and report required to meet the specification requirements. Learners **must** use the template provided in each examination.

This activity is best suited to being assessed using a points-based approach to define the difference between 'limited', 'some', 'most' and 'all'. This is explained in the marking guidance.

Marking Guidance	Pages to
Example Solution	Pages to
Script A	Pages to
Script B	Pages to

The focus of each trait is detailed below.

- Trait 1** The focus of assessment is on learners being able to recognize the tables and fields that will be required to produce the required results and adding these to their query grids/report.
- Whether the learners go on to produce the required results is of no consequence in this trait. Therefore, it is worth encouraging learners who do not think they can complete some of the more challenging aspects within query b and the report to at least ensure they include evidence of the tables and fields that would be used.
- Trait 2** The focus of assessment is on learners being able to use criteria and calculations correctly (including sorting). It was expected that most learners would be able to successfully count the number of staff and to extract only those where there were two or more and to be able to sort the position into ascending order in query A. It is also expected that higher ability learners would realize the question wanted only **current** staff members in that position.
- It was then expected that pass level learners could achieve some of the simpler aspects of query B e.g., the performance grade of 1 and an attempt at either the number of years worked or the bonus – even if it did not work correctly i.e. the use of sensible fields, correct values etc.

The report in this paper was quite a simple report and it was

expected that most learners would be able to complete this successfully and that those of a higher ability would pick up on the need for it to be current staff.

Trait 3

The focus of assessment is on learners being able to present the results of their queries and report sensibly so that the output matches the requirements and would make it easy for a user to read and understand the data.

This includes being able to:

- Only show the fields requested
- Ensure data/labels are not truncated
- Use suitable field names/labels for generated fields
- Include a suitable title on the report
- Ensure the report fits on one page and uses the width of the page/size of fields/labels etc. wisely
- Use a group header/footer to show items only once when appropriate.

It is worth noting that assessing truncation/layout/currency can only be determined from datasheet view of the queries and the pdf version of the database report. A screen-print of the database report is not enough.

As with trait 1, the results of the calculations do not have to be correct for achievement in this trait. Therefore, learners should be encouraged, to spend time making sure they have considered the presentation of their results.

It was surprising to see the number of learners who did not attempt this activity at all. A far higher percentage than in other examinations. Of those who did query A and the report was quite well done, query B less so. This was as expected i.e. query B being the most challenging.

It was clear to see that some centres had spent time encouraging learners to attempt all three even if they could not manage all aspects. These learners tended to do well in terms of marks even if some of the criteria and calculations were not correct/working. As previously mentioned, achievement in traits 1 and 3 can boost the marks for those that are weaker in the more technical aspects.

However, it was sad to see several learners did not achieve some of the marks because they did not ensure:

- All their field/label names, criteria etc. could be seen in both design and datasheet/print preview
- They created appropriate field/label names for the generated values in the queries/report
- They paid attention to the presentation of their results.

Part A Activity 4 – Structure testing

This task is designed to test the learners' ability to test the structure of their database by carrying out **only** the tests given.

Learners **must** use the template provided in each examination and should only carry out the tests specified.

Marking Guidance	Page
Example Solution	Pages to
Script A	Pages to
Script B	Pages to

It is surprising that despite a number of Lead Examiner reports and script examples many learners still do not recognise what is needed.

Test data should be present and relevant for **every single field in the table they are testing** and ensure that the test data means the test will fail only on the field being tested. The examiner needs to see the name of each field and the test data that will be used in each field. There are still a high number of learners who do not include test data for each field, or only give a value that they will use for test data or simply say what the test is for.

Expected results should be specific e.g. if an error message is going to appear what should it be?

The examiner should be able to see the test data used in the screen-print(s) given and the error message. They match the test data from that screen-print back to the test data given. They also match the error message back to what is given in the expected results.

Centres should stress to learners that in the real world in many instances the person who develops the test plan is not actually the person who completes the testing. The plan should be clear enough that

an independent tester can carry out the testing and judge whether it has been successful or not.

Testing required in the examination:

Test to be carried out	What is it testing?
1 A record for a staff member will not save if the surname is not present	Presence check test
2 A record for a staff member will not save if the staff start date is not present	Presence check test
3 A record for a staff member will not save if the telephone number is not in the correct format	Format check test
4 A record for a staff member will not save if the number of days they work is below the accepted range	Value lookup/range test
5 A record for a staff member will not save if the number of days they work is above the accepted range	Value lookup/range test
6 A record will not save if the subject being taught in a class is invalid	Table lookup (foreign key) test
7 A record for a staff member will not save if the performance grade is invalid	Table lookup (foreign key) test

It was sad to see the number of learners who carried out more testing than was required. The number of tests given reflect the time allocated to complete the activity. Please encourage learners not to waste time testing anything that is not asked for. For example, test number 4 the only test that needs to be carried out is to prove a record will not save if the number of days worked is below the accepted range. Testing of a value in range is not required, testing that the record will not save without a value is not required, testing to make sure characters are not required etc. is not asked for and does not attract any marks. There were several learners who had tests 1(a), 1(b), 2(a), 2(b) etc. This is not required and does not attract any higher marks that only doing the test actually requested. There should only be a retest or explanation if an error has been found and possibly corrected.

Test data column

It is expected that learners will provide the test data for a **full** record i.e., the name of each field and the data that will be used. Null, blank etc. can be used to signify fields where no data will be used. It was very nice to

see the number of learners who provided all the necessary detail in this column. However, some learners:

- Use this column to tell the examiner what the test is – we do not need to know that it is already in the exam paper
- Only indicate a single item of test data e.g., blank. This is of no use to a tester
- Only indicate the field that will be tested e.g., Artist Surname. This is of no use to a tester
- Put a screen-print in of the table showing the data. This is not acceptable.

Expected results column

This should be specific and, indeed, many learners ensured it was. Specific means a tester would know exactly what should happen e.g., an error message will be displayed telling the user they must enter the artist's surname. There are some learners who still do not appear to understand this e.g.,

- An error message will be displayed
- The data will not be accepted
- I have added a combo box.

Actual results column

Many learners evidenced this well. However, some learners weaken their evidence because

- The actual results do not use the test data they said they were going to use or there was no test data to compare to in the first place
- The screen-prints cannot be read
- Messages cover the test data so it cannot be seen

In terms of screen-prints, learners can change the width of the columns in the template and can delete the final column if they have no errors to discuss. They can also place the screen prints underneath the table so long as they ensure they clearly label which test number the screen-print(s) belongs to.

Error column

Learners should only complete this column if they have found errors during testing. Learners are not penalised for having a 'perfect' solution, however, where it is clear the actual results are not what should be expected or where they could have been better, they should be identifying this. If they have not encountered any errors and would prefer to delete this column to increase the size of the screen-prints for the actual results, then this is acceptable. Learners should always check their pdf document to ensure all tests can be seen. In some cases, the pdfs had been saved in portrait orientation meaning a lot of evidence was lost.

Part A Activity 5 – Structure evaluation

This task is designed to test the learners' ability to evaluate the structure of their database.

Marking Guidance	Page
Script A	Pages to
Script B	Page

The evaluation in Part A is distinctly different from the evaluation in Part B. Part A is designed for learners to showcase their knowledge and understanding about normalisation, minimising data duplication and how this can help ensure requirements are met. Part B is all about the interface and the usability of it from the user's point of view. It is clear to see some learners do not understand this.

Some learners also do not appear to understand that the evaluation is based upon 'minimising data duplication' as well as meeting requirements.

- Some paid lip service to minimizing data duplication, some did not consider it all.
- Some regurgitated all they knew about normalization without relating it to their solution.
- Others concentrated solely on meeting the given requirements.
- Others gave a running commentary of what they had done to complete all the activities in part A.
- Others took this as an opportunity to talk about how they were taught/how hard tasks were/how they had performed etc.

We expect a discussion of how **their** structure has minimised data duplication. The discussion should demonstrate their knowledge and understanding of the process of normalisation in terms of the **data extract** and the **given requirements** and **why their structure is suitable**. It should not be taken as an opportunity to regurgitate theory learned about normalisation etc. There is no requirement to think about the user in this evaluation. That is part B.

Part B Activity 6 – Interface and functionality

This task is designed to test the learners' ability create and automate two forms. The first requires validation and a customised, automated save process, the second may require calculations/criteria/filtering etc. and some form of an automated process.

Learners **must** use the template provided in each examination.

Marking Guidance	Pages to
Example Solution	Pages to
Script A	Pages to
Script B	Pages to

- Trait 1** Assessment of this trait focusses on the presentation of the forms and how 'fit for purpose' they are in terms of what the learners have been told the forms will be used for and what they must do. Across the two forms examiners will be looking for:
- Whether they match the given purpose
 - Sensible titles
 - Instructions telling the user how to use the forms
 - Asterisks where data entry is required
 - Field widths that are appropriate for data they will hold
 - A good layout
 - A consistent house styles
 - Fields that have content that **should** be automatically generated are disabled
 - Relevant, consistent, easy to read labels (e.g., spaces)
 - Combo boxes (or equivalent) where relevant to make it easier for the user to input data

Whether the forms include automated routines or not is of no consequence in this trait.

- Trait 2** Assessment of this trait focusses on the addition of any criteria/calculations required to meet requirements. What the form looks like and whether the automation of the form works is of no consequence in this trait.

Trait 3 Assessment of this trait focusses on the validation and automated routines that should be present to meet requirements. Validation must be at form level and not applied to any of the tables – the structure of the tables must not be altered in any way. What the form looks like is of no consequence in this trait.

Trait 4 Assessment of this trait can be determined by how well the learners has met the requirements of the other three traits as they all play their part in the functionality of the forms and how well they meet the requirements criteria. The band awarded for this trait was automatically calculated.

Form1 – Add subject

The purpose of this form was to *add a new drinks machine*.

This form was the simpler of the two and it was expected that this form could be created, customised, and automated by all learners with pass and above ability.

Trait 1

It was good to see some centres have taken past Lead Examiner reports and resources including sample scripts etc. into account and had prepared their learners well in terms of the requirements for this trait. It was also nice to see the many different house styles that learners used for this form and how well they took usability etc. into account.

However, it was very disappointing to see the number of learners who still cannot produce anything other than a default form. It is relatively easy for learners to achieve band 4 in this trait, which can really help boost marks awarded for those who find the calculations, criteria, and automation more difficult.

Common problems found:

- Irrelevant titles e.g., the name of the table
- No consideration of the readability of the labels e.g., no spaces in Labels that included more than one word
- Little/no consideration of the data that would be input i.e., fields that were too wide/too deep
- No consideration of user aids including disabled fields, asterisks, Instruction on how to use, drop down boxes etc.
- No save buttons
- Machine ID missing from the form.

Trait 2

This form was the simpler of the two in terms of calculations/criteria. The only calculation required was to ensure the MachineID would be incremented. The data type for MachineID in tbl Machine was AutoNumber so this did not require learners to use an actual calculation only to ensure it was present on the form.

If the MachineID appeared on a **bound** form and there was a save button, then this was enough evidence. If DMax was used on the MachineID field on an **unbound** form, then this was enough evidence for incrementing the ID. However, it would not have been suitable to try to save this value in the automation process for trait 3 – the data type was AutoNumber. We did expect to see the MachineID on the form as this was taken to mean learners had taken the fact that the MachineID would need to be generated considered. Most learners achieved this.

Trait 3

The first form (machine form) was the form that required validation as part of/along with an automated save process. In this examination validation had to ensure:

- The purchase date was present
- The purchase date was not in the future
- The machine must be assigned a valid brand
- A suitable error message would appear where invalid data had been used

Automation should have been present to:

- Ensure the form was ready for data entry
- Append valid data to the machine table, display a save message and clear the form ready for the next data entry.

It was good to see many of the learners successfully validated and automated this form. Surprisingly, despite Lead Examiner reports, example scripts etc. from past papers, many learners still do not ensure they include the relevant evidence. It is very unlikely that learners can provide enough evidence using a single screenprint. It is worth nothing that a presence check applied to the properties of the field on the form itself is not acceptable as evidence of a presence check though the validation of the purchase date to ensure it was not in the future could. For validation of the brand using a table lookup and setting limit to list to Yes was sufficient evidence.

Common problems found:

- The MachineID was missing from the form or there was no save button
- No evidence had been included in terms of how the save process worked
- The presence check was applied to the field properties of the purchase date as opposed to the macro or code
- Validation for the purchase date meant the date had to be in the future

- There were no suitable error messages
- The save took place regardless of whether there were errors or not (outside of the if statement(s))
- No append query in design view (if this was the method used).

Form 2 – Meter reading form

The purpose of this form was to be able to select a machine ID and for the highest meter reading stored in the table for that particular machine to be displayed. The user would then input the week beginning date, the meter reading and the money that had been collected.

The user should then have been able to see the number of drinks that had been sold, the money expected from the number of drinks that had been sold and a message to call the engineer if the money was out by more than £10.

As usual, some aspects of this form were more challenging when compared to the first form to discriminate between the different abilities.

It was expected that most learners would be able to build the form, even if they could not manage to get it fully functional. It was expected that the higher ability learners would be able to produce some of the more challenging aspects and the highest ability to produce all the aspects.

It was disappointing to see that several learners did not attempt this form at all – it is worth building the form even if it does not function correctly as marks can still be obtained. It was also disappointing to see how many learners simply repeat what they did for the first form – create it using a wizard and add a save process. Saving and validation is not part of this form.

Trait 1

In terms of trait 1 and how the form should look, the requirements given in the activity were clear:

- There must be a combo box for the machine ID.
- For the selected machine ID the user inputs:
 - The week beginning date
 - The meter reading
 - The money collected.
- The information for that machine must be generated and displayed on

The form:

- The highest meter reading stored in the table for that machine which is the most recent meter reading
- The number of drinks sold
- The amount of money expected
- The words call engineer should appear if the money collected is less than the money expected by more than £10

This should have led to the form including:

- A combo box to select the machine ID
- Data input fields for the week beginning date, meter reading and money collected
- A field to display the highest meter reading stored in the table for that machine
- A field to show the number of drinks sold
- A field to show the amount of money expected
- A field to show the words call engineer if applicable
- The usual – title, clear labels, asterisks, instructions etc.

Even if learners could not go on to complete any of the functionality they would still have been credited for 'fitness for purpose' and presentation. Clearly, this would have helped to boost marks.

Across the learners who attempted this form it was disappointing to see that not very many appeared to spend time thinking about how fit for purpose the interface would be or consider its presentation. Some learners had included a very good interface for the first form but did not carry that through into this form. At times, this did affect the marks awarded.

As with the first form, common problems were:

- Irrelevant titles
- No consideration of the readability of the labels e.g., no spaces in labels that included more than one word
- Little/no consideration of the data that would be input i.e., fields that were too wide/too deep
- No consideration of user aids including disabled fields, asterisks, instruction on how to use, drop down boxes etc.

Trait 2

In terms of criteria and calculations it was expected that:

- DMax or equivalent would be used to find the highest machine ID and that it would link to the machine ID that had been selected.
- The number of drinks sold would be generated taking into account the the highest meter reading and the current meter reading i.e. the difference between them giving the number of drinks sold
- The money expected would be generated taking into account the number of drinks sold and the cost per drink
- The difference between the money expected and the money collected would be checked and if it was greater than 10 then the call engineer message would be displayed.

It was expected that there would be something for everybody to attempt and achieve in this trait and it did prove to be good differentiator in terms of abilities. The most common aspect successfully completed was generating the highest machine reading though it was rare to see learners attempt to link this to the machine ID selected therefore it became the highest machine ID in general. A number of learners attempted more of the calculations and did tend to get credit for them. As expected, fewer managed to successfully complete everything required.

Overall, there was a wide range of evidence seen that covered some, majority, and all the requirements.

The common problems encountered included:

- Not including the query/queries in design view or truncating the evidence
- Truncating the formulae added to the fields in the form

Trait 3

In terms of automation this is what was expected that:

- After a machine ID was selected, the highest meter reading stored in the table for that machine would display
- After the week beginning date, the meter reading and the money collected were input the number of drinks sold, amount of money expected, and the call engineer message would be updated to reflect the result of the inputs.

Where learners had attempted the form and the generation of data (even if it did not work correctly), they were able to gain marks in this trait.

Part B Task 7 – Interface and functionality testing

This task is designed to test the learners' ability to test the interface and functionality of the database by carrying out **only** the tests given.

Learners **must** use the template provided in each examination and should only carry out the tests specified.

Marking Guidance	Page
Example Solution	Pages to
Script A	Pages to
Script B	Pages to

The general comments discussed in activity 4 also apply to this activity.

Testing required in the examination:

1. The machine input form is ready for data entry when the form opens
2. The purchase date must be present
3. The purchase date must not be in the future
4. The machine must be assigned a valid brand
5. A record will save in the machine table if all the required data is present and valid
6. These details appear on the meter reading analysis form after the machine ID has been selected and the week beginning date, meter reading and money collected have been input:
 - The highest meter reading stored in the table for that machine which is the most
 - Recent meter reading
 - The number of drinks sold
 - The amount of money expected
 - The words call engineer if appropriate.

Again, it was nice to see most learners ensured they carried out **only** the given testing, though some are still wasting time including other tests.

The general comments given in activity 4 in terms of evidence also apply here.

Part B Task 8 – Interface and functionality evaluation

This task is designed to test the learners' ability to evaluate their interface and its functionality in terms of the quality, performance, and usability of the interface.

Marking Guidance	Page
Script A	Page
Script B	Page

The evaluation in Part B is distinctly different from the evaluation in Part A. Part A is designed for learners to showcase their knowledge and understanding about normalisation, minimising data duplication and how this can help ensure requirements are met. Part B is all about the interface and the usability of it from the **user's point of view**. It is clear to see some learners do not understand this.

At times learners use the evaluation as an opportunity to describe what they have done with no thought or mention of the user at all. We want to know what they have done and how/this makes the solution easier for the user to use. It is also very common to see learners ignore issues in terms of their solutions.

Summary

Based on their performance in this paper, learners should:

- Ensure the structure in their activity 2 **exactly** matches the structure shown in their activity 1
- Ensure screen-prints can be clearly read – no truncation etc.
- Ensure enough detail has been included to show the criteria/calculations and automation of the forms
- Ensure there is test data present for each field in the table/form, ensure expected test results are specific, ensure the data used can be clearly in the actual test results
- Ensure they understand the difference in the focus in terms of the evaluation in Part A and the evaluation in Part B

For more information on Edexcel qualifications, please visit
www.edexcel.com/quals

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

